



Impact of COVID-19 on Advanced Cancer Patients' Pain Care: Warning About Chloroquine and Hydroxychloroquine

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Dear Editor,

In recent few months, the world has experienced a new and unique situation with the spreading of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (1, 2). Signs and symptoms include fever, sore throat, cough, fatigue, headache, nausea, vomiting, diarrhea, and shortness of breath (3). Close contact with infected people and touching contaminated surfaces are the most important ways of coronavirus spreading (4). Old age is known as a risk factor for poor prognosis of COVID-19 and ICU admission. Old age is not only a major risk factor for COVID-19 infection but also a risk factor for many cancers (5, 6). Cancer patients receive diverse palliative care medications, especially for the control of pain, some of which such as methadone can prolong QTc interval (7). The QTc interval prolongation can be seen in up to 20% of patients. However, its clinical importance is not so significant (8, 9). Many protocols are described for the treatment of COVID-19 (10). Two of the most prevalent drugs used for COVID-19 treatment are chloroquine and hydroxychloroquine (11-13). Chloroquine and hydroxychloroquine can be associated with electrocardiographic QT interval prolongation. The QT interval prolongation is a risk predictor of developing potentially lethal Torsade de Pointes dysrhythmia (14). Since old age is a risk factor for both cancer and COVID-19, it is important to pay special attention to fatal drug interactions in elderly cancer patients with SARS-CoV-2 infection. From this point of view, in any patient with cancer or non-cancer chronic pain, even a young person who is infected with SARS-CoV-2 at the same time, it should be noted that

drug interactions do not affect his/her outcome.

Footnotes

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References

- Pergolizzi JV, Jr, Magnusson P, LeQuang JA, Breve F, Paladini A, Rekatsina M, et al. The Current Clinically Relevant Findings on COVID-19 Pandemic. *Anesth Pain Med.* 2020;**10**(2). e103819. doi: [10.5812/aapm.103819](https://doi.org/10.5812/aapm.103819). [PubMed: [32754437](https://pubmed.ncbi.nlm.nih.gov/32754437/)]. [PubMed Central: [PMC7352949](https://pubmed.ncbi.nlm.nih.gov/PMC7352949/)].
- Ali H, Eissa S, Magdy H, Khashba M. Dexmedetomidine as an Additive to Local Anesthesia for Decreasing Intraocular Pressure in Glaucoma Surgery: A Randomized Trial. *Anesth Pain Med.* 2020;**10**(3). e100673. doi: [10.5812/aapm.100673](https://doi.org/10.5812/aapm.100673). [PubMed: [32944557](https://pubmed.ncbi.nlm.nih.gov/32944557/)]. [PubMed Central: [PMC7472791](https://pubmed.ncbi.nlm.nih.gov/PMC7472791/)].
- Rahimzadeh P, Amniati S, Farahmandrad R, Faiz SH, Hedayati Emami S, Habibi A. Clinical Characteristics of Critically Ill Patients Infected with COVID-19 in Rasoul Akram Hospital in Iran: A Single Center Study. *Anesth Pain Med.* 2020;**10**(5). doi: [10.5812/aapm.107211](https://doi.org/10.5812/aapm.107211).
- Hassani V, Amniati S, Ahmadi A, Mohseni M, Sehat-Kashani S, Nikoubakht N, et al. Emergency Tracheostomy in Two Airway Trauma Patients Suspected of COVID-19: A Case Report. *Anesth Pain Med.* 2020;**10**(4). e104648. doi: [10.5812/aapm.104648](https://doi.org/10.5812/aapm.104648). [PubMed: [33134149](https://pubmed.ncbi.nlm.nih.gov/33134149/)]. [PubMed Central: [PMC7539045](https://pubmed.ncbi.nlm.nih.gov/PMC7539045/)].

5. Rahimzadeh P, Faiz HR, Farahmandrad R, Hassanlouei B, Habibi A, Hedayati Emami S, et al. Clinical Features and Prognosis of Invasive Ventilation in Hospitalized Patients with COVID-19: A Retrospective Study. *Anesth Pain Med.* 2020;**10**(6). doi: [10.5812/aapm.108773](https://doi.org/10.5812/aapm.108773).
6. Drageset J, Corbett A, Selbaek G, Husebo BS. Cancer-related pain and symptoms among nursing home residents: a systematic review. *J Pain Symptom Manage.* 2014;**48**(4):699–710. doi: [10.1016/j.jpainsymman.2013.12.238](https://doi.org/10.1016/j.jpainsymman.2013.12.238). [PubMed: [24703946](https://pubmed.ncbi.nlm.nih.gov/24703946/)].
7. Hemati K, Zaman B, Hassani V, Imani F, Dariaie P. Efficacy of fentanyl transdermal patch in the treatment of chronic soft tissue cancer pain. *Anesth Pain Med.* 2015;**5**(1). e22900. doi: [10.5812/aapm.22900](https://doi.org/10.5812/aapm.22900). [PubMed: [25789240](https://pubmed.ncbi.nlm.nih.gov/25789240/)]. [PubMed Central: [PMC4350185](https://pubmed.ncbi.nlm.nih.gov/PMC4350185/)].
8. Hardy JR, Bundock D, Cross J, Gibbons K, Pinkerton R, Kindl K, et al. Prevalence of QTc Prolongation in Patients With Advanced Cancer Receiving Palliative Care-A Cause for Concern? *J Pain Symptom Manage.* 2020;**59**(4):856–63. doi: [10.1016/j.jpainsymman.2019.12.356](https://doi.org/10.1016/j.jpainsymman.2019.12.356). [PubMed: [31866486](https://pubmed.ncbi.nlm.nih.gov/31866486/)].
9. Gintant G, Burrige P, Gepstein L, Harding S, Herron T, Hong C, et al. Use of Human Induced Pluripotent Stem Cell-Derived Cardiomyocytes in Preclinical Cancer Drug Cardiotoxicity Testing: A Scientific Statement From the American Heart Association. *Circ Res.* 2019;**125**(10):e75–92. doi: [10.1161/RES.0000000000000291](https://doi.org/10.1161/RES.0000000000000291). [PubMed: [31533542](https://pubmed.ncbi.nlm.nih.gov/31533542/)]. [PubMed Central: [PMC7398423](https://pubmed.ncbi.nlm.nih.gov/PMC7398423/)].
10. Mahmoodpoor A, Shadvar K, Ghamari AA, Mohammadzadeh Lameh M, Asghari Ardebili R, Hamidi M, et al. Management of Critically Ill Patients with COVID-19: What We Learned and What We Do. *Anesth Pain Med.* 2020;**10**(3). e104900. doi: [10.5812/aapm.104900](https://doi.org/10.5812/aapm.104900). [PubMed: [32944565](https://pubmed.ncbi.nlm.nih.gov/32944565/)]. [PubMed Central: [PMC7472789](https://pubmed.ncbi.nlm.nih.gov/PMC7472789/)].
11. Gautret P, Lagier JC, Parola P, Hoang VT, Meddeb L, Mailhe M, et al. Hydroxychloroquine and azithromycin as a treatment of COVID-19: results of an open-label non-randomized clinical trial. *Int J Antimicrob Agents.* 2020;**56**(1):105949. doi: [10.1016/j.ijantimicag.2020.105949](https://doi.org/10.1016/j.ijantimicag.2020.105949). [PubMed: [32205204](https://pubmed.ncbi.nlm.nih.gov/32205204/)]. [PubMed Central: [PMC7102549](https://pubmed.ncbi.nlm.nih.gov/PMC7102549/)].
12. Colson P, Rolain JM, Lagier JC, Brouqui P, Raoult D. Chloroquine and hydroxychloroquine as available weapons to fight COVID-19. *Int J Antimicrob Agents.* 2020;**55**(4):105932. doi: [10.1016/j.ijantimicag.2020.105932](https://doi.org/10.1016/j.ijantimicag.2020.105932). [PubMed: [32145363](https://pubmed.ncbi.nlm.nih.gov/32145363/)]. [PubMed Central: [PMC7135139](https://pubmed.ncbi.nlm.nih.gov/PMC7135139/)].
13. Colson P, Rolain JM, Raoult D. Chloroquine for the 2019 novel coronavirus SARS-CoV-2. *Int J Antimicrob Agents.* 2020;**55**(3):105923. doi: [10.1016/j.ijantimicag.2020.105923](https://doi.org/10.1016/j.ijantimicag.2020.105923). [PubMed: [32070753](https://pubmed.ncbi.nlm.nih.gov/32070753/)]. [PubMed Central: [PMC7134866](https://pubmed.ncbi.nlm.nih.gov/PMC7134866/)].
14. Haeusler IL, Chan XHS, Guerin PJ, White NJ. The arrhythmogenic cardiotoxicity of the quinoline and structurally related anti-malarial drugs: a systematic review. *BMC Med.* 2018;**16**(1):200. doi: [10.1186/s12916-018-1188-2](https://doi.org/10.1186/s12916-018-1188-2). [PubMed: [30400791](https://pubmed.ncbi.nlm.nih.gov/30400791/)]. [PubMed Central: [PMC6220451](https://pubmed.ncbi.nlm.nih.gov/PMC6220451/)].